Hack.UTA

FALL 2022

Introduction to Python Workshop

Presented by acm

Starting in: <<7:00->>

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Itinerary

- Python Environment Setup
- Introduction to Hackathons
  5 minute break
- Python Workshop Pt. 1
  10 minute break
- Python Workshop Pt. 2

What should I do to prepare?

- There's **very little** you have to do before the actual event–most of the magic happens there.
- Make sure you are **well rested** the night before and ready to create the next day.
- Recommended to **find a team** before the event starts
- Brainstorm ideas
- Prepare your Trello or PowerPoint in advance
- Find out in advance what technologies you will use
- Install your work environment
- Look over the pre-event email we send a week before the event, and follow the instructions we have for you

What should I bring?

- Yourself
- A government or school-issued ID card
- Your laptop and chargers
- Any other equipment you deem necessary for your project (i.e. drawing tablet)
- A blanket and/or sweatshirt (it might be cold)
- Personal hygiene Items
- Most of all, bring energy, ideas, and a great attitude so you can have tons of fun!

What should I expect?

Location

NH Atrium

Food

Meals, snacks, and energy drinks will be provided throughout the event

Sleep

- Important, but don't feel pressured
- 2 classrooms provided on the 2nd floor (designated quiet rooms)

Fun events and tournaments

CTF, HHH, BR MS Paint, Cup Stacking, SSBU, Minecraft Challenge, and more!

5 Workshops!

ML, CV, APIs, Databases, and Portfolio

Judging/Demos

- Demo for prizes
- Demo regardless of how the project turns out

Have fun, meet new friends, and enjoy a great environment!

What can I work on?

Health

Data processing for hospitals, virtual health assistant, remote patient examination, health technology for rural areas, GPS monitoring for ambulances, improved medical and emergency communication

Education

Learning experience exchange, classroom referral process platform, course and university finder, smart tutor, apps that aid college students

Consumer

Home and office automation, autonomous drones, truly predictive keyboard (NLP)

Automotive

Parking spot finder, pedestrian safety, vehicle maintenance

Financial

Subscription management solution, credit score calculator, cash flow management, stock market tools

Retail

Digital shopping performance, AR/VR, Product QR Codes

Where do I start?

IDEATION

- Find a problem
  What do you want to solve?
- Come up with an idea
  How do you think you can solve it?
- Narrow down topics
  Pick the ones you're most passionate about.
- Create pool of ideas
  Which ones are interesting?
- Narrow down ideas
  Which ones are the most interesting?
- Decide on the final project

Where do I start?

EXECUTION

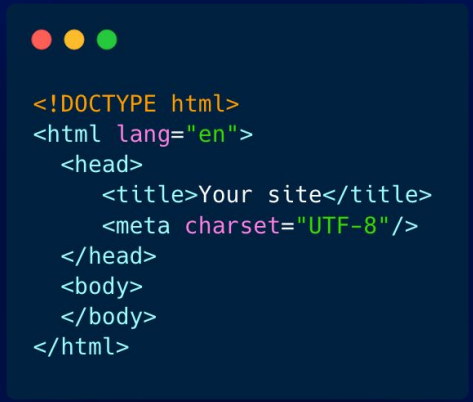
- Brainstorm project idea
  - *What do you want to solve?*
- Decide on technologies
  - *Do you want to choose something you're familiar with, or try something new?*
- Delegate work and responsibilities
  - *Spit them based on your team member's skills.*
- Break down project into achievable steps
- Create a minimal viable product (MVP)
- Start Hacking
  - *Remember: The internet is your friend!*

Pitching Tips (Demo/Judging)

- Don't make your presentation complex
- Allocate pitching time and direct focus to important details
- Be prepared to support any claims
  - you might have to backup any assertions made)
- Be confident

Effectively Building a Project

1. Begin your project with a boilerplate



```html
<!DOCTYPE html>
<html lang="en">
  <head>
     <title>Your site</title>
     <meta charset="UTF-8"/>
  </head>
  <body>
  </body>
</html>
```

Effectively Building a Project

1. Begin your project with a boilerplate
2. Craft requests with API clients
    a. Applications like Postman and Insomnia offer intuitive interfaces for structuring requests

Effectively Building a Project

1. Begin your project with a boilerplate
2. Craft requests with API clients
3. Use open-source and free design assets
    a. Icons: Google Material, The Noun Project, and Flaticon
    b. Component libraries/frameworks: Google Material, Blueprint.js, UIKit, Milligram, Semantic UI, Bootstrap, and Flutter
    c. Typography: Google Fonts
    d. Images and Logos: Logomakr and Unsplash

Effectively Building a Project

1. Begin your project with a boilerplate
2. Craft requests with API clients
3. Use open-source and free design assets
4. Collaborate on user-friendly platforms
    a. Synchronized Environments: Glitch and Google Colaboratory
    b. VCS: Github Desktop and GitAhead
    c. Prototyping: **Figma** and Invision
    d. Project Management: Notion or Trello
5. Leverage workshops and mentors
    a. Asking can be quicker than googling :)
    b. New ideas

Effectively Building a Project

https://github.com/simcard0000/hackathon-resources

Standard Boilerplates

Name	*Technology/Framework*	*Use*	*Language(s)*
MLH Flask Starter	Flask	backend/web dev, API creation	Python
MLH Node.js Starter	Node.js	backend/web dev	JavaScript
Sahat's Hackathon Starter	Node.js	web dev	JavaScript
h5bp's HTML5 Boilerplate	HTML5	web dev	JavaScript
React Boilerplate	React	frontend/web dev	JavaScript
Electron-React Boilerplate	React	frontend/web dev	JavaScript
hitherejoe's Android Boilerplate	Android	mobile app dev	Java
Kriasoft's React Starter Kit	React	frontend/web dev	TypeScript
Google's Web Starter Kit	HTML5	web dev	JavaScript
erikras' React-Redux Universal Hot Example	React	web dev	JavaScript
PatrickJS' Angular Starter	Angular	frontend/web dev	JavaScript
coryhouse's React Slingshot	React	frontend/web dev	JavaScript
Ant Design's Ant Design Pro Boilerplate	React	frontend/web dev	TypeScript
dhg's Skeleton Boilerplate	CSS	frontend/web dev	CSS
SimulatedGREG's Electron-Vue Boilerplate	Vue.js	frontend/web dev	JavaScript
Infinite Red's React Native Boilerplate	React Native	mobile app dev	TypeScript

Design Tools

Name	*Use*
Google Fonts	fonts
Google Material	icons, UI components
Figma	protoypes, design collaboration
Invision	prototypes, design collaboration
LucidChart	prototypes, diagrams
the Noun Project	icons
flaticon	icons
Blueprint.js	UI components, React
UIKit	UI components
Milligram	CSS framework
Semantic UI	UI components
Bootstrap	UI components + utilities
Flutter	widget-based UI
logomakr	logos + designs
Unsplash	stock images
Free Font Library	fonts
Use & Modify	fonts
Velvetyne	fonts

Deployment/Web Hosting

Name	*Use*
Netlify	hosting and serverless backend for web apps/static sites
GitHub Pages	host site directly from a GitHub repository
Heroku	Platform as a Service (PaaS)
Cloudflare	CDN and DDoS mitigation
Firebase	Google's mobile app dev platform

Collaboration Tools/Other

Name	*Use*
GitHub Student Development Pack	student access to coding resources
Google Colaboratory	good for TensorFlow/Python, collaborative code editing
Glitch	full-stack web dev, collaborative code editing
GitHub Desktop	Git client
GitAhead	Git client
Notion	project planning
Trello	project planning
Miro	virtual whiteboard
Excalidraw	virtual whiteboard
diagrams.net/draw.io	chart creation

Thank you for attending!

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Introduction to Python Workshop Pt. 2

Resumes in <<10:00->>

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Thank you everyone for coming!

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